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ABSTRACT

The validity of the interpersonal cognitive problem solving (ICPS) skills model of children's adjustment was investigated (1) by determining whether ICPS skills demonstrated during preschool predicted teacher ratings of adjustment in school during the next two years and (2) by assessing the objectivity of teacher ratings of adjustment through the use of direct observations of children's behavior. Subjects in the first phase of the study were 23 white kindergarten children who had been administered the preschool interpersonal problem solving (PIPS) test while attending Head Start programs. Total data consisted of Head Start PIPS scores, kindergarten teacher behavior adjustment and social competence ratings for all 23 children, and scores on observation measures taken 1 year later for 14 of the subjects. Results substantially support the predictive validity of the PIPS test. Trends in the data suggest that teachers' perceptions of children's adjustment can be verified by observation and that both teacher perceptions and observable behavior can be predicted by the PIPS test. It is concluded that the ICPS model may prove to be an important assessment and training tool for developing social competence in young children. Measures used are appended. (Author/RH)

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Predicting Social Competence: The Validity of the PIPS

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Predicting Social Competence: The Validity of the PIPS

The method by which children learn to efficiently operate within their social environment--to become "socially competent"--is of special theoretical and practical concern. One method developed by Spivack and Shure suggests that the ability to "think through" real life problems and generate potential solutions leads to competence in dealing with the social environment. In school, young children who demonstrate the ability to generate solutions are rated by teachers as being better adjusted. Yet the interpersonal cognitive problem solving model (ICPS) has not been tested in terms of predictive validity nor behavioral validity. The purpose of the present study was to determine whether interpersonal solutions generated during preschool on the PIPS test were predictive of teacher rated adjustment during the next two years.

The results show that PIPS scores collected during Head Start predict teacher ratings of adjustment and social competence during the following two years but that behavioral observation was not predicted. The implications for the ICPS model are discussed.

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Predicting Social Competence: The Validity of the PIPS

I. Statement of the Problem

The method by which children learn to efficiently operate within their social environment--to become "socially competent"--is of special theoretical and practical concern (Zigler and Trickett, 1978). Understanding the mechanisms underlying this process provides information about the process of social development and suggests techniques for training the less competent to become better adjusted to, and more effective in, their social environment.

Spivack and Shure (1974) suggested that interpersonal cognitive problem solving (ICPS) skills are central to social competence. Those individuals who "think through" interpersonal conflicts and problems and arrive at a variety of potential solutions from which to choose are those who show greater competence in dealing with the environment. For young children, the principal social environment is the classroom.

The validity of the ICPS model for young children rests upon teacher ratings of classroom adjustment. It has not been established that ICPS skills are predictive of teacher ratings in later years nor that teacher ratings of adjustment can be supported with behavioral observation. Such ratings have been shown to be succeptable to distortion (DeMeis and Turner, 1978). Further investigation of the potential of ICPS requires that its central assumption--that cognitive problem solving skills mediate behavioral change--be validated with respect to its predictive validity and with concurrent behavioral validation of the rating system used.

The purpose of this study, then, was to provide an initial attempt at such validation by (a) determining whether ICPS skills demonstrated during preschool predicted teacher ratings of adjustment in school during the next two years, and (b) developing a behavioral rating scale to assess the objectivity of the teacher ratings of adjustment in the ICPS model.

II. Background

Shure and Spivack and their colleagues have reported a series of studies developing, refining and implementing the ICPS approach (see Spivack, Platt, and Shure, 1976, for a comprehensive review). Of the three subtests of the ICPS model that are used, the preschool interpersonal problem solving (PIPS) test requires that alternative solutions to life-related problems be generated.

Subsequent research by Spivack and Shure has indicated that the number of solutions proposed during the PIPS session was predictive of teacher ratings of adjustment. That is, those who generated the greatest number of different and relevant solutions on the PIPS were seen by teachers as more likely to wait their turn, less likely to show emotionality, and less likely to aggress toward their peers.

While these results seem to support the hypothesis that problem solving skills mediate behavioral change, a number of issues remain unresolved. First, in none of the studies was a direct measure of behavior taken. Second, in none of the studies was it reported whether the teachers accurately report the behavior of the children. And finally, in none of the studies was it determined whether the skills were actually manifested in the classroom and playground settings.

In response to these issues, the present study was designed to determine the relationship between ICPS skills demonstrated in preschool, and subsequent adjustment, both observed and rated, in kindergarten and first grade.

III. Method

Subjects. Twenty-three white kindergarten children (11 girls and 12 boys) served as subject during the first phase of the study. The subjects were selected randomly from two lists of Head Start children enrolled during the previous year. One list contained the names of children who had participated in Project Developmental Continuity and those who had been enrolled in regular Head Start and were serving as a comparison group. All of the subjects had been administered the PIPS during Head Start. Of these, fourteen subjects (8 girls, and 6 boys) were observed, and rated, during the second phase while they were enrolled in first grade.

Procedure. Ratings of adjustment were obtained for all children in each classroom during both kindergarten and first grade. Teachers rated each child using two forms developed by Spivack and Shure: the Hahneman preschool Behavior Rating Scale generated ratings along a seven-point scale from "timid" through "average" to "aggressive", while a second scale permitted the ratings of "socially competent" behaviors along a nine-point scale.

The Behavioral Adjustment Rating Scales (BARS) were developed, and pretested, using operational definitions of each of the items on the above-mentioned sets of scales. The BARS Behavioral Rating Scale assessed "timid" through "aggressive" while the BARS Social Competence scale assessed those additional behaviors. Each subject was observed for

three 30 minute sessions (once each in the classroom, at lunch, and during recess). Twenty percent of the observation periods were randomly selected and observed by two raters for reliability estimates.

The data base, then, consisted of Head Start PIPS scores, kindergarten teacher behavior adjustment and social competence ratings for 23 children, and those same scores taken one year later for 14 of the subjects.

IV. Results

To determine whether the PIPS scores were predictive of teacher ratings of behavioral adjustment and social competence, multiple regression analyses were computed using the PIPS scores and program (PDC and Comparison) as predictor variables and the two teacher rating scores as the criterion for both the kindergarten and first grade data sets.

In kindergarten, significant multiple r's were found for the social competence ratings when both Fall and Spring PIPS scores were entered. A multiple r of .92 ($F(2,20) = 24.79$, $p < .001$) was found to be accounted for primarily by the Fall PIPS score ($B = .98$; $F(2,20) = 49.56$, $p < .001$). Similarly, a multiple r of .73 ($F(2,20) = 5.13$, $p < .01$) was found to be accounted for by the Spring PIPS scores ($B = .74$; $F(1,20) = 10.25$, $p < .001$).

Neither PIPS score was found to be predictive of the Hahneman Behavioral Rating Scales nor of the BARS scores. The latter result is reflective of the low reliability found for the Kindergarten BARS scores; the average reliability coefficient was .78.

For the first grade data, different observers were given more extensive training with the BARS and reliability coefficients averaged .95 (ranging from .91 to .98).

To determine whether the PIPS scores were predictive of teacher ratings two years later, multiple regression analyses were computed using the first grade teacher ratings as criterion variables and the Fall and Spring PIPS scores as predictors.

Significant multiple r's were found for the behavioral adjustment scale but not for the social competence scores nor for either of the BARS scores. A multiple r of .83 ($F(2,9) = 9.87$, $p < .001$) was found to be accounted for by both the program effects and the Fall PIPS scores. The program beta weight (-.77; $F(1,9) = 15,10$, $p < .001$) indicated that the PDC participants were rated toward the higher (aggressive) end of the scale. Mean ratings centered around the middle of the scale, however (PDC 5.61; Comparison 5.00). Fall PIPS scores contributed significantly to increments in the r^2 ($B = .67$; $F(1,9) = 11.54$, $p < .001$). Children with high PIPS scores were rated as better adjusted than children with low scores.

Spring PIPS scores and program effects also produced a significant multiple r (176; $F(2,9)$, $p < .01$). The program beta weight showed a similar trend here (.46; $F(1,9) = 4.42$, $p < .05$). The Spring PIPS score accounted for a significant increment in the r^2 as well ($B = -.55$, $F(1,9) = 6.35$, $p < .001$).

These results provide substantial evidence for the predictive validity of the PIPS for determining classroom adjustment as assessed by teachers.

That the PIPS did not predict behavioral observations of adjustments led to a further examination of the BARS data. Both the BARS Behavioral Adjustment Scores and Social Competence scores were significantly correlated with the teacher behavioral adjustment score (.53 and .60) but not with the teacher social competence score. As well, both the Fall PIPS (-.46) and Spring PIPS (-.49) were significantly correlated with the BARS Behavioral Adjustment Score. And, while the multiple r for the BARS Behavioral Adjustment Score (.64) failed to reach significant levels, the Fall PIPS score beta weight (-.65) did account for a significant increment in the r^2 ($F(1,9) = 5.65$, p .01).

V. Conclusions

The purpose of this study was to determine whether inter-personal problem solving skills demonstrated in preschool were predictive of teacher ratings of classroom adjustment and other socially competent behaviors during the next two years. The results substantially support the predictive validity of the PIPS.

Attempts to behaviorally validate the PIPS rating scales were less successful. Low reliability and classroom structure different from that for which the scales were developed resulted in no discernable relationship between either the PIPS or the teacher ratings and the behavioral observations in kindergarten. Improved reliability and increased full-day structure resulted in higher levels of relationship during first grade. When the small number of subjects that were retained across two years is considered, the trends in the data suggest that teachers perceptions of children's adjustment can be verified by observation and that both of these assessments of adjustment can be predicted by the PIPS. The ICPS model, then, may prove to be an important assessment, and training tool for developing social competence in young children.

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HAHNEMANN PRE-SCHOOL BEHAVIOR RATING SCALE (HPSB)*

Myrna Shure, Ph.D. and George Spivack, Ph.D.

Hahnemann Medical College and Hospital

CHILD'S NAME_____

CHILD'S BIRTHDATE _____

DATE OF RATING_____

YOUR NAME_____

check correct space

__X__ Teacher

____ Assistant Teacher

____ Classroom Aide

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Impatient, emotional, and aggressive behaviors

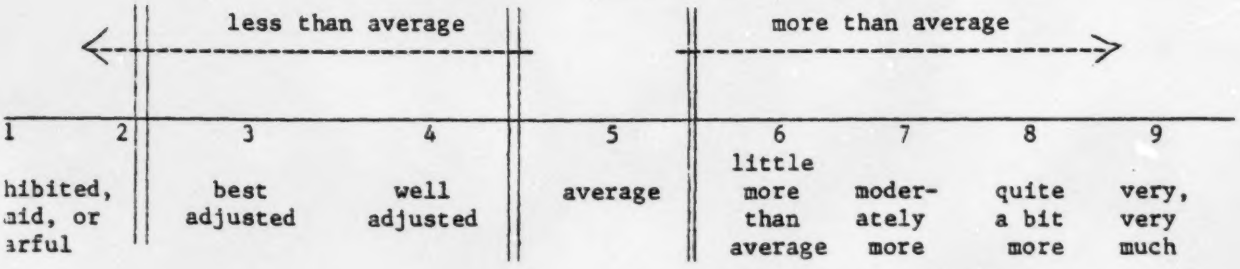
Think of the average 3, 4, 5 year old. Indicate how this child compares with the average child his age and sex. For each item (considered separately) rate the child:

"1" or "2": if the child displays the behavior less than he should because he is too inhibited, timid or fearful. A rating of "1" reflects more inhibition, etc., than does a rating of "2."

"3" or "4": if the child displays the behavior less often than the average child, because his adjustment or maturity is better than average. A rating of "4" describes well adjusted behavior; a rating of "3" shows best adjusted behavior.

"5"" if the child displays the behavior being rated about as often as the average child of the same age and sex.

"6," "7," "8," or "9": if the child displays the behavior being rated more frequently than the average child, ranging from "6" (somewhat more) to "9" (very, very much more). Higher scores reflect greater amounts of negative behaviors, e.g., aggression, emotionality, and/or impulsiveness.



ITEMS

1. Persistent and nagging: persists when told he cannot have something. Nags, demands, repeatedly asks for something ___6___

2. Easily upset by peers: Examples-when teased, pushed, etc. ___7___

3. Easily upset by adults: gets very upset or over-emotional if things don't go his way ___7___

4. Dominant: bosses, threatens; dominates other children ___2___

5. Physically aggressive: hits, bites, scratches, pushes, or in other ways hurts or attacks other children in a free play situation with peers ___2___

6. Prone to emotional upset: reacts with immediate anger or upset if some other child interferes with his play or takes something that is his ___3___

7. Impatience: unable to wait proper time or share; grabs toys; unable to take turns. (Please note: a high score shows more grabbing, and less ability to share and take turns) ___2___

OTHER BEHAVIORS

For each of these items, use the following scale:

ery little or none		Less than average		Same as most his age		More than average		Much more than average
1	2	3	4	5	6	7	8	9

To what degree is the child (or does the child):

1. Able to talk in complete sentences (more than short phrases or single words) 3
2. Complete activities by himself 4
3. Seek out adult attention and support 7
4. Get the point of what he hears in class 3
5. Able to make himself understood with words 3
6. Overcome obstacles by himself 3
7. Oblivious to what is going on in class (not "with it," seems to be in own private "closed world") 4
8. Able to apply what he has learned to a new situation 6
9. Ask for special privileges or special help from teacher 2
10. Gives an answer that has nothing to do with the question being asked 3
11. Willing to talk with peers (ask questions; give answers, makes verbal contact with others) 7
12. Makes you doubt whether he is paying attention when teacher explains something to him (looks elsewhere, has blank stare, faraway look) 3
13. Show initiative in what he does 7
14. Makes irrelevant remarks during a classroom discussion 2
15. Want to be physically close to teacher 9
16. Initiates classroom discussion 5

'ery little or none		Less than average		Same as most his age		More than average		Much more than average
1	2	3	4	5	6	7	8	9

17. Acts defiant (will not do what he is asked to do) 2

18. Shows concern and/or offers help to a child in distress 7

19. Liked by peers (they seek him out, enjoy being with him) 9

B.A.R.S.

INAPPROPRIATE	
Nagging	
Upset by peers	
Upset by adults	
dominates	
Phys. Agression	
Impatience	
Grabling	
Unable to Share	
APPROPRIATE	
Helpful to Peers	
Accepted by Peers	
Cooperative with Adults	
Sharing	
Patience	
Initiates Activities	
Completes Activities	
Overcomes Obstacles	

Descriptive Statistics

Variable	Mean	S.D.	N	
PIPS1 (Fall)	1.65	1.40	23	Preschool Interpersonal Problem Solving Inventories
PIPS2 (Spring)	2.74	1.94	23	
Teacher Rating Kind. Behav. Adjustment	5.77	1.36	23	Hahneman Behavioral Rating Scale: Behavioral Adjustment Kindergarten
Teacher Rating Kind. Soc. Competence	5.06	.92	23	Hahneman Behavioral Rating Scale: Social Competence Kindergarten
Behavior Rating Kind. Behav. Adjustment	.48	.81	23	Classroom observation of Hahneman behavioral adjustment categoreis
Behavior Rating Kind. Soc. Competence	3.99	1.78	23	Classroom observation of Haheman social competence categories
Teacher Rating First Behav. Adjustment	5.10	1.81	13	Hahneman first grade scores: Behavioral Adjustment
Teacher Rating First Soc. Competence	4.45	1.49	13	Hahneman first grade scores: Social Competence
Behavior Rating First Behav. Adjustment	1.73	2.02	16	Classroom observation in first grade: behavioral adjustment
Behavior Rating First Soc. Competence	10.49	6.17	16	Classroom observation in first grade: social competence